

SCANNED IMAGING APPARATUS WITH SWITCHED FEEDS

ABSTRACT OF THE INVENTION

A display apparatus includes a scanning assembly that scans about two or more axes, typically in a raster pattern. A plurality of light sources emit light from spaced apart locations toward the scanning assembly such that the scanning assembly simultaneously scans more than one of the beams. The light sources are positioned such that their beams each illuminate discrete regions of the image field that are substantially non-overlapping with respect to the other discrete regions. The image is thus formed from a set of "tiles". By activating a first light source during a forward sweep of the mirror and activating a second light source during a reverse sweep of the mirror, two halves a common line can be written during a single sweep of the mirror. Shifting the position of the sources such that the two halves are aligned reduces raster pinch. In alternative embodiments, the same approach is used for imaging. Also, various approaches to controlling the frequency responses of the various scanners are described, including active control of MEMs scanners and passive frequency tuning.